

# The Nuclear Regulatory Commission's Approach to Integrated Safety Analyses



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# Petition for Rulemaking

- ❖ Industry representatives formally requested regulation regarding integrated safety analyses

# Revision of 10 CFR Part 70

- ❖ After a multi-year effort the rule became effective in October 2000

# 10 CFR Part 70 (Subpart H)

- ❖ Subpart H establishes: performance requirements, a safety program, process safety information, integrated safety analysis, and management measures
- ❖ ISA Summaries must be submitted by October 2004.

# Performance Requirements

- ❖ Chemical Safety
- ❖ Criticality Safety
- ❖ Environmental Safety
- ❖ Fire Safety
- ❖ Radiological Safety

# Performance Requirements

- ❖ Consequence: High & Intermediate
- ❖ Likelihood: Highly Unlikely & Unlikely

# NUREG 1520 (Draft)

## ❖ Standard Review Plan for Fuel Cycle Facilities

- Incorporates information for licensee (Areas of Review) and for NRC reviewer (Acceptance Criteria)
- Contains 11 chapters

# NUREG 1513

## ❖ Integrated Safety Analysis for Fuel Cycle Facilities

- Describes methodologies a licensee could use for conducting a hazard analysis.

# ISA Summaries

- ❖ Must be submitted by October 2004
- ❖ Product of the Integrated Safety Analysis
  - Includes:
    - Process Descriptions and Hazard Identification
    - Accident Sequences and list of items relied on for safety (IROFS)
    - Measures needed to maintain reliability and availability of IROFS

# Present activities

❖ Licensees have submitted ISA Plans

# ISA Plan Criteria

- ❖ Description of plan:
  - For selecting ISA Team members
  - To identify radiological and chemical hazards
  - To identify potential accident sequences
  - To identify consequence and likelihood
  - To identify item(s) relied on for safety
  - For an integrated format for assembling safety information into an ISA Summary

# ISA Plan Criteria (continued)

- List of all analyzed processes and the portion of the process that will be analyzed
- Schedule of ISA Summary(s) submittal dates

# Chemical Process Safety

- ❖ Follows MOU between OSHA and NRC
- ❖ NRC responsible for:
  - Radioactive Materials
    - Uranium Hexafluoride, uranyl nitrate and oxides of uranium, etc

# Chemical Process Safety

- Chemicals produced from radioactive materials
  - Hydrogen fluoride from  $\text{UF}_6$
  - Oxides of nitrogen from uranium dissolution
- Chemicals that would impact operations with radioactive material and result in an increased radiation risk.